

REMARKS

This amendment is responsive to the Final Office Action mailed May 5, 2008, the Interview Summary of August 28, 2008, and the Advisory Action of September 10, 2008. Reconsideration and allowance of **claims 2, 3, 5-15, 18, and 20-22** are requested.

Election

Claims 4, 16, 17, and 19 have been cancelled without prejudice to file a divisional application on or before the conclusion of the prosecution of this application.

The Office Action

Claims 1-3, 5, 7, and 13 were rejected under 35 U.S.C. 102(e) as being anticipated by Wu et al. (U.S. Patent No. 6,909,162).

Claim 6 was rejected under 35 U.S.C. 103(A) as being unpatentable over Wu et al. in view of Kimura (U.S. Patent No. 5,214, 683).

Claim 7 was rejected under 35 U.S.C. 112, second paragraph, as being indefinite and failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The drawings are being objected to under 37 C.F.R. 1.83(a) for not showing every feature of the invention specified in the claims.

Replacement Drawings

A Replacement Sheet for Sheet 1 of the drawings is enclosed. In the Replacement Sheet Figure 2 has been amended to add reference numerals 9 and 17 and to make gate 17 shorter than gate 9.

The Present Application

The present application is directed to an image sensor comprising a semiconductor body having a first conductivity type and a surface provided with a number of cells. The cells comprise photosensitive elements and reset transistors. The reset transistors comprise a source region, a drain region, and a gate region, the source

region and drain region having a second conductivity type. The source region of the reset transistor is electrically connected to the photosensitive element of the cell.

One objective of the present application is to provide an image sensor of the type mentioned above having a reduced number of white pixels and reduced fixed pattern noise.

The above description of the present application is presented to the Examiner as background information to assist the Examiner in understanding the application. The above description is not used to limit the claims in any way.

35 U.S.C. §112

Claim 7 has been rejected under 35 U.S.C. 112, second paragraph, as being dependent on a non existing claim. **Claim 7** was amended to depend from claim 1 using the Patent Office approved strike through convention. However, because the strike through appears at almost the same level as the cross bar for the 4 it is difficult to distinguish. **Claim 7** has been re-amended to set forth its dependency more clearly.

The References of Record

Wu et al. is directed to a method for reducing dark current in a photodiode. The photodiode has a semiconductor substrate having a first conductivity type and a well formed in the substrate with a second conductivity type.

Kimura is directed to a charge detecting device that comprises a source follower amplifier for detecting a variation in a surface potential of a reset transistor. The device allows the setting of a level of the suitable reset pulse in response to a variation in the channel potential of the reset transistor without external circuits for setting reset pulse levels.

The Claims Distinguish Patentably Over the References of Record

Claim 2 is not anticipated by Wu. Claim 2 calls for the gate region to overlap the source region 7 such that the portion of the source region is sandwiched between the gate and well regions. By contrast, in Wu the gate 121 ends at the edge of the source 123 and does not extend over it.

Accordingly it is submitted that **claim 2** and **claims 3, 5, 7, 13-25, 18, and 21-22** are not anticipated by Wu.

Claim 6 is patentable over Wu et al. (U.S. Patent No. 6,909,162) in view of Kimura (U.S. Patent 5,214,683).

Wu does not disclose a "source follower transistor is present having a gate connected to the source of the reset transistor, the gate of the reset transistor having a length which is longer than the length of the gate of the source follower transistor." The examiner asserts that Kimura teaches a source follower transistor comprises a gate connected to the source of the reset transistor and that the gate of the reset transistors is longer than the gate of the source follower transistor. Examiner refers Applicant to Figure 1 of Kamura which discloses a source follower transistor 108 having a gate connected to the source 102 of a reset transistor 120. It is respectfully submitted that Kamura does not disclose that the gate 107 of the reset transistor has a length which is longer than the length of the gate of the source follower transistor. Rather, both are shown diagrammatically with different conversions from which no teaching of relative size can be fairly drawn.

Additionally, Examiner asserts that it would have been obvious to a person of ordinary skill in the art at the time the invention was made to have the gate of the reset transistor to have a length which is longer than the length of the gate of the source follower transistor. It is respectfully submitted that it would have not been obvious to one of ordinary skill in the art to have made the gate of the reset transistor have length which is longer than the length of the gate of the source follower. Kimura does not suggest that such a difference in size compensates for a lower voltage threshold of the reset transistor caused by the location of the well of the reset transistor in respect to the gate of the reset transistor. There is no evidence or suggestion that it is obvious to one of ordinary skill in the art to use a source follower transistor having a gate connected to the source of the reset transistor, the gate of the reset transistor having a length which is longer than the length of the gate of the source follower transistor except from using Applicant's application as a template through a hindsight reconstruction of the Applicant's claims.

Accordingly, it is submitted that **claim 6** distinguishes patentably and unobviously over the references of record.

DRAWINGS

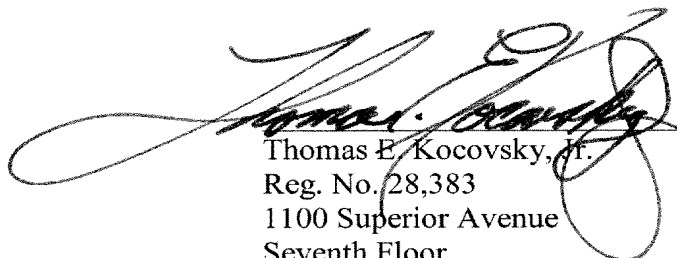
The Applicant encloses a Replacement Sheet 1 of the drawings. Figure 2 has been revised to (1) lengthen the gate of transistor 6 and shorten the gate of transistor 16 to illustrate the relationship claimed in claim 6. Figure 2 has also been amended to (2) add reference numbers 9 and 17 and (3) correct the spelling of “photons.”

CONCLUSION

For the reasons set forth above, it is submitted that all claims are not anticipated by and distinguish patentably and unobviously over the references of record. An early allowance of all claims is requested.

Respectfully submitted,

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